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Economy and Society

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/reso20

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Published online: 28 Jul 2006.

To cite this article: Dandeker Christopher (1983) Warfare, planning and economic relations, Economy and Society, 12:1, 109-128, DOI: 10.1080/03085148300000010

To link to this article: http://dx.doi.org/10.1080/03085148300000010

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Review Article by Christopher Dandeker

Warfare, planning and economic relations

Christopher Dandeker

Text reviewed:
M. Pearton, *The knowledgeable State: Diplomacy, War and Technology since 1830* Burnett Books, Hutchinson, 1981.

War and industrial capitalism

Despite the continuing significance of warfare in the contemporary world, its analysis remains on the periphery of social theory. Sociological theories of industrialism, armed with the concept of the division of labour, minimise the role of force as a mechanism of social integration both within and between societies. On the other hand, Marxist theory has all too often analysed state violence as a functional or instrumental expression of class exploitation within particular societies, or in regard to the organisation of the hierarchical 'world system' of capitalism, rather than examining its particular historical forms. For example, whilst Baran and Sweezy (1970) argue that the modern military absorbs 'surplus production', and secures worldwide markets for the raw materials and industrial output of monopoly capitalism, little attention is devoted to analysis of the relations between different types of warfare, military organization and economic relations.

Modern warfare provides an interesting point of departure for the analysis of particular forms of state mediation in the regulation of 'organised capitalism'. The state no longer provides minimum conditions for the operation of capitalist market mechanisms, but plays a more direct role in the allocation of resources; in supplementing the market with political and administrative mechanisms in its efforts to secure conditions for capital accumulation, and therefore, a political and fiscal basis for its own existence. Such state mediation in different societies has involved different forms of institutionalised 'trade off' between state power, different fractions of capital and organised labour, as reflected by the extent and form of the regulation of industrial relations, the role of the state in capital markets etc. Such mediation flows not only

Economy and Society Volume 12 Number 1 February 1983
© R.K.P. 1983 0308–5147/83/1103–0109 $1.50/1

from attempts by the state, capital and labour to provide conditions for 'stability' and 'growth' but also from the specific demands of war.

Historically, the instabilities in the capitalist world system have accelerated imperial rivalries (supplemented by tensions with competing 'socialist' systems), and the development of technically advanced armed forces. The requirements of war have constrained all states with power pretensions and sufficient economic resources to develop military organizations and associated logistics, armaments and planning agencies. These developments provide interesting comparisons with those forms of state planning not directly associated with war. However, the former have provided models for the latter to imitate.[1] Indeed the consequences of war planning in the twentieth century have ensured that planning production and consumption during peace to encourage the accumulation process, and planning for war are now not as easy to distinguish as they once were. The significance of Pearton's text lies in his analysis of this question.

The 'industrialization of warfare'

As a preliminary the concept of 'industrialization' is used by Pearton to *review* the ways in which warfare has been transformed in European states during the last 200 years. For Pearton, the following tendencies are of particular significance:

1. Military technique – there has been a series of revolutions in the technical means and operational organization of fighting. This has involved a restructuring of the strategic elements of force, time and space. In the nineteenth and twentieth centuries, the electric telegraph and radio (once incorporated into new social relations), transformed communications and mechanisms of exerting surveillance over distance. Steam, electricity, the internal combustion engine and nuclear power have increased the mobility of fighting forces and their rapidity of strategic and tactical concentration.[2] Developments in industrial engineering, and science have increased markedly the destructive powers of armed forces, with advances in small arms, artillery, bombs, missiles and nuclear weaponry. Advanced military techniques have been extended into the air and beneath the seas, with the latest phase marked by the extension of aerial warfare into 'space'.
2. Logistics – With the increase in the destructive powers of armed forces, and advances in their means of transportation and communication, the sophistication of their equipment

has involved a greater dependence of military organizations on the 'civilian' economy for the regular supply of vast quantities of human and especially material resources. This dependence has displaced the *relatively* self-contained supply and logistics systems of the eighteenth century and earlier military systems, and has coincided with the development of political and administrative mechanisms for the regulation of relations between military procurement and consumption on the one hand, and civilian production on the other. The mobility of modern forces and emancipation from local conditions has been bought at the price of dependence on base supplies.

3. Political – From 1793 onwards, but especially since 1914, war has become less a conflict between relatively autonomous, specialised military organizations, conducted according to the norms of a duel culminating in an 'honourable' compromise, and more of a 'total' struggle between mobilised nation-states in which civilians lose their non-combatant status, and aristocrats are displaced by a technocratic and less scrupulous officer corps. The state bureaucracy, paid by taxation of greater national wealth, and armed with improved techniques of surveillance which are the fruits of industrial capitalism, has conscripted its citizens and resources for national defence with an intensity that pre-existing states have matched with intent and improvisation (as in Napoleonic France) but not with the technical systemacity of the twentieth century. At the same time the democratization of the political process, (that is the incorporation of subject citizens into the political process through mechanisms ranging from bourgeois democracy to plebiscitory dictatorships), has undermined the traditional structure of diplomacy as established between dynastic states. The substitution of a nation-at-arms has forced those responsible for diplomacy to take into account mass public opinion in their deliberations in ways quite alien to eighteenth and early nineteenth century diplomacy which was conducted in a relatively insulated, 'honourable', aristocratic dominated universe.
4. Administrative – The social and technical revolution in military organization and its relations with the civilian sector have also been associated with the extension of planning in the logistic and operational aspects of warfare. This has involved the development of an increasingly 'knowledgeable state' – one which recruited science, technology, and relevant personnel in both civilian and military sectors to plan the efficient prosecution of warfare.

> The development of war planning in both sectors provides a major component of the structure of policy formation in industrial capitalist states, in which military planners with their expertise and 'timetables' of requirements and options, provide civilian politicians and other state agencies with important constraints on their capacity to create and execute foreign and domestic policy, and to challenge military definitions of reality.

Before discussing these tendencies in more detail, it is important to point out certain weaknesses in the concept of 'industrialization of warfare', as these prevent a satisfactory analysis of war and state planning.

For the purposes of such generalised description, the concept has some value; it reviews that which is to be explained. However, it does not allow us to specify why different industrial capitalist states (notwithstanding their similarities), adopt diverging patterns of development in the areas of war, planning and economic relations. Furthermore, is this concept adequate for the analysis of socialist societies with industrial based economies? Without rehearsing the familiar arguments of, and flaws in the industrial society thesis (to which Pearton subscribes), one or two points are relevant.

Pearton argues that not only does the 'industrialisation of warfare' describe the common features of a number of western European states, it is at the same time an explanation of why these states have been forced to adopt similar solutions to the problems of planning and organising war. By extension, it also provides an account of why the experience of the U.S.A. constitutes an echo of the European one in this regard and, in addition, conceives of the Soviet Union as an unexceptional case. The state's mobilisation of resources for war – the mobilization of science and technology in its service – takes a form in which, whether it is state or private enterprises which are so dragooned, is relatively immaterial. The point is, a military 'technostructure' (pace Galbraith, 1967) joins its civilian counterparts in using techniques to conceive and execute state policy. The domination of technique and the expert is *the* significant feature of the modern world.

However, unless one resorts to ad hoc theorising or appeals to historical 'peculiarities', how is one to explain the following important problems, the significance of which Pearton acknowledges at various points?

1. If all 'industrial states' develop planning mechanisms in the organisation of warfare, why is it that military planners have a more significant role in the determination of policy in some

societies (as say, in Germany under the military dictatorship of Hindenburg and Ludendorf 1916–18), whilst in others (e.g. the UK in the same period) they found much more serious opposition from the civilian political elite. In Germany, the result was that foreign policy became both inflexible and naive on the road to defeat (M. Kitchen, 1968, 1976). Answers to this question require an analysis of the Prussian state and its hegemony in the German empire – a dynastic, bureaucratically reinforced absolutism, quite distinct from the combination of aristocratic privilege and bourgeois democracy found in England. In the former, state officials, and particularly the higher echelons of the military, gained a decisive, and, (from a technical point of view) politically irresponsible policy position.

2. Given that technical revolutions in the means of destruction (and production) do not follow an autonomous 'technical logic' but take place only through particular social relations, what is it about the structure of those relations within capitalist industrial enterprises, and between them and the state which made war organization take on different forms in different societies? Why, for example, was war planning of greater significance in Germany before 1914 (though the extent of this has been exaggerated into mythical proportions), than in the U.K. where in the Army it was for a very long time de rigeur to look down on staff work as an odd pastime, quite marginal to the social niceties of regimental life? Equivalent attitudes were common in British industry. (Barnett, 1972, Harries-Jenkins, 1977, and W.C. Hamer 1970)

Any consideration of German capitalist development would have to take account of the 'advantages of backwardness' of European capitalist development following in the wake of the quite atypical English experience. German capitalism from the mid 19th century onwards was a peculiar combination of small provincial producers confronted with massive centralised capitals whose growing reputation in research and development, and particularly innovations in the area of chemicals, dyes, petro-chemical and electrical goods far outstripped the antiquated British system. The latter comprised within it the seeds of decline imposed by the dominance of overseas orientated finance capital over domestic industry (Kitchen, 1978 and Gerschenkron, 1962)

The resources of German capitalism were channelled into military development with an urgency that reflected that society's position as a continental state; and one which was a potential threat to powerful military neighbours, i.e. France, Austria and Russia. Britain with its defence resting on naval power could afford to neglect its Army and treat it as a domestic and colonial police force, until it was realised, towards the end of the nineteenth century, that naval power and 'diplomacy' alone could not halt the rise of a hegemonic Western and Central European power; the traditional goal of British foreign policy. Army reform when it came was radical, but belated. In addition, the avoidance of monarchical absolutism in the 1640s ensured that Britain was to carry a suspicion of the army through to the twentieth century which was quite unmatched in the German case.

3. Whilst all industrial societies have been forced to recruit science and technology in the mobilisation for war, why was it that, in the nineteenth century particularly, the state in Germany had more technical, educational resources to draw on than did the British?

   Again, whilst both Britain and Germany had sources of aristocratic (and bourgeois!) disdain for technical education, in the latter technical innovation was pursued more systematically both within and outside the military. In Britain, more of the ambitious middle class sought (in order of preference) administrative, and commercial careers first, with technical occupations a poor third. The different pattern of relations between class structure and the state provides the roots of these differences (Barnett, 1972).

   The problem of the concept 'industrialisation' of warfare is that it confines analysis to a generalised level of abstraction without providing theoretical rather than ad hoc, historical explanations of specific relations. In addition, it incorporates the unwarranted assumption that technical knowledge means power, an issue to which I shall return. Bearing these problems in mind we can return to the historical tendencies identified in Pearton's text.

War and the effects of the social transformation of force, time and space

Pearton is concerned with the effects of industrialised war on planning. Two aspects of war planning should be distinguished.

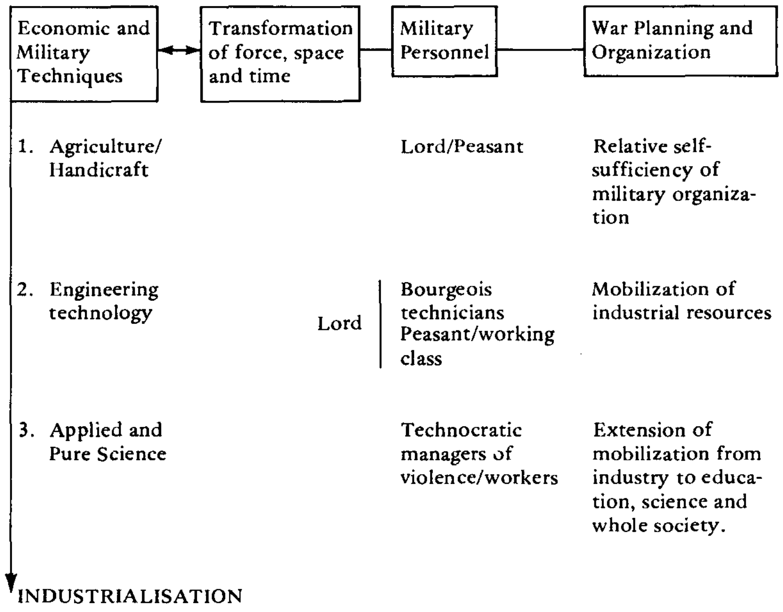
1. The development of planning arrangements between the state as consumer of arms and related supplies, and the industrial, scientific and educational organizations in the civilian sector.
2. The development *within* military organizations of planning staffs engaged in both designing operational war plans and

> liaising with the civilian sector through participation in various committees concerned with arms design, purchase of materials, manpower planning, security and legal questions. The incorporation of scientific techniques and industrial technology into military organisations constrained their commands to devote more attention to staff work. Such work came to be quite beyond the capacity of individual Commanders-in-chief and their traditional, small staffs. In the later nineteenth and twentieth centuries, the expansion of military staff work involved the extension of supply or logistics departments as well as those concerned with intelligence and operational planning, This tripartite division in the 'brain' of military organisation (which has its parallel in the development of capitalist enterprise), reflects the general requirements of planning, i.e. in regard to the knowledge or intelligence on which to base a decision; deliberation on policy options and decisions on operations and their requirements; and, finally, the logistical supply and other arrangements which provide the conditions for the realisation of particular operational plans. The significance of such staff work is that success in modern war depends not so predominantly on operational command skills, but more on logistic and technical skills in deployment and supply. It may be argued that whilst it is not too difficult for a military commander to say where he would like his forces to be at a given time and with what equipment (i.e. the use of operational skills) the real issue is can those forces be moved and equipped in the way desired (Van Creveld, 1977).

Whilst these two aspects of planning I have distinguished intertwine in that the second provides conditions for the realisation of the first, Pearton weakens his thesis by focusing almost exclusively on the first. Pearton's discussion may be clarified by analysing his three stage model of the historical relations between the economy and war planning. It may be schematised as shown on the top of page 116.

The stages in war planning and in the restructuring of force, space and time show the increased dependence of the military on the resources of the industrial economy.

In the 'military revolution' of the late seventeenth century (see Van Creveld) European dynastic states had been able to tax commercial wealth to increase the size of armies, and establish a variety of magazine supply systems to supplement the systems of foraging and the more or less organised plunder of occupied



Economic and Military Techniques	Transformation of force, space and time	Military Personnel	War Planning and Organization
1. Agriculture/ Handicraft		Lord/Peasant	Relative self-sufficiency of military organization
2. Engineering technology	Lord	Bourgeois technicians Peasant/working class	Mobilization of industrial resources
3. Applied and Pure Science		Technocratic managers of violence/workers	Extension of mobilization from industry to education, science and whole society.

INDUSTRIALISATION

territory which had provided the traditional improvised solutions to the logistic problems of armies. However, the dependence of the military on its base for all supplies – the idea of the umbilical cord – is a defining feature of modern military organizations. From the late eighteenth century on through the Napoleonic period and beyond, the technical improvements in the mechanisms of state surveillance, including bureaucratic administration, made systems of foraging and military exploitation in occupied territories (by levy in money or kind), far more effective than before. They also facilitated more destructive campaigns and supplanted the dominance of siege warfare. Indeed, the Napoleonic period was something of an anticipation of twentieth century collective mobilisation. The military dependence on sources of supply, particularly fodder for horses (of which not more than 11 per cent was obtained from magazine stores, the rest being foraged or levied), did not prevent armies being relatively self-sufficient in food so long as they could move from area to area. When static, an army's supply problems could be crippling, even in the era of railways.

Whilst railways facilitated the relatively rapid strategic deployment and concentration of forces (by the French against the Austrians in Italy 1859, and the Germans against the French in 1870), they played a marginal role in their tactical movements.

For these purposes reliance had to be placed on human feet and the horse for successful operations until the advent of the internal combustion engine and the advantages of motorisation had been incorporated (M. Cooper, 1978, pp. 113–59).

The development of railway transportation increased the dependence of the military on the civilian industrial sector, with the former pressing for consultation on the building and location of lines, matters of maintenance and investment in the relevant industries. This process was furthered by motorisation which extended the interests of military planners from heavy industry to automotive sectors. Likewise with air power, the light engineering, aluminium and associated sectors also came within military purview. Thus, the price of improved mobility, both tactical and strategic was an extension of the web of dependence between military and civilian sectors.[3] This had other sources, particularly with regard to improvements in, and the specialisation of, armaments and other technical equipment. Specialisation meant that resupply had to be from specialised outlets, rather than improvising with captured stocks or relying on the traditional interchangeability between many military and civilian techniques; (ships in the eighteenth century for example could be adapted very easily for military use, whilst handguns in civilian and military use were very similar).

Specialisation was also associated with an increase in the consumption of war materials, due to increased firepower. Right up until 1914 armies, once supplied, were relatively self-sufficient in weapons and ammunition. Campaigns could be pursued without exhausting supplies or wearing out weapons. Yet in 1914, in the first few weeks of war, the massive increase in destructive power as a result of the combination of mass armies, modern artillery and the machine gun, together with the demands of static trench warfare, ensured that not only were armies drawing quickly on reserves of supplies, but that stocks held in the civilian sector were soon close to exhaustion. Static warfare, itself a product of large mass armies whose means of transportation (until motorization), were not as technically advanced as their destructive powers, enforced a collective mobilisation of resources for the war effort, amongst the great powers which had not been witnessed before in European history. For this reason, it is 1914 not 1870 (the Prussian destruction of France through the strategic use of railways) that marks the genuine beginning of the era of modern war.

The events of 1914 added a new twist to the relations between military and civilian sectors, particularly with regard to weapons and munitions industries. The adoption of industrial techniques in war had already encouraged the state to take an active interest in armaments firms. Krupps in Germany, Schneider in France, Armstrong and Vickers in England, became involved with government agencies (including specialist military personnel), in the joint planning of designs, whilst at the same time they were relatively free to conduct themselves in the market like other enterprises. While the British government experimented for a short time with state funded enterprises in the mid-nineteenth century, it returned to a laissez-faire attitude soon after. Of course, consultations between government and armaments firms took place when the latter were involved in deals which the foreign office found politically sensitive, but for the most part governments were prepared to accept international arms deals, as they provided profits to domestic enterprises which might otherwise look to the state for financial support, and, of course, transferred some of the costs of technical innovation to foreign purchasers. Nevertheless, most governments maintained their own arms design, experimentation and production facilities in order to provide quality control on the goods of private enterprise and secure some degree of control over what constituted reasonable prices and profit margins.

At the same time, armaments industries were more or less dependent (for expansion and profits) on government purchases of arms, which were becoming so specialised that capital allocated to their production could not easily be switched to 'non-war' goods. Those at the 'dependent' end of the spectrum, particularly in the heavy sector of iron and steel production (whose interest in arms was triggered by an overcapacity in iron and steel) were thus far more closely involved in the administrative and political lobby networks that flourished in the period 1860–1914 and beyond, in European states. This was less the case with electrical, automotive and petro-chemical industries. The dependent enterprises could never rely completely on government purchases, nor were governments willing to encourage such a situation. So long as imperial rivalries coincided with a relatively free international market, as before 1914, arms exports were encouraged, and all parties could obtain satisfaction. Whilst, during 1914–1918 the dependent sectors became even more closely involved in state allocation of resources, price fixing and guarantees of large purchases, the post-1918 period created a crisis of profitability and under-utilisation of resources. In Germany and Italy, moreover, such industries were to play a political role in the conjunction of rearmament and the rise of fascism quite unmatched by their counterparts in other European states; an issue Pearton has difficulty in posing adequately for reasons indicated earlier.

What is interesting about the developments in planning relations between armaments industries and the state up to 1918 (and it is a tendency still with us), is that while such industries had an interest in long term government purchases, the requirements of military expansion constrained political elites to ensure that forward planning would not be subject to short term interference by legislative bodies. Obviously, this was less of a problem in Germany than in England, with the latter's stronger institutions of both civilian control of the military and parliamentary accountability. In the latter case however, the example of the '2 power standard' (a rule by which the expansion of the late nineteenth century Royal Navy was to ensure equality with the next two first class naval powers) was designed specifically to ensure that whilst Parliament could continue to scrutinize the use of government funds, it could not easily interfere with the long term strategic policy of imperial defence by massive naval power (see A.J. Marder, 1941). The more extensive the network of relations between the state and civilian production of military goods, and the more planning is extended into the future, the more difficult it is for legislative bodies to intervene, although, as I shall argue, to make this point is not to adopt a fatalistic view.

It was during the 1930's, and later in the Second World War that the mobilisation of engineering and related technologies was supplemented by the incorporation of pure science into the research and development of new fighting techniques and operations research; (on the effectiveness of alternative bombing strategies for example). The web of consultation and co-ordination between state and industry spread to encompass scientific and education institutions. Not only businessmen but scientists and their research staff became civil or quasi-civil servants. The twentieth century has witnessed an enormous expansion in the costs of war supplies and organisation, such that research and development as well as production, required the intervention of the state in its function as underwriter of costs or simply as producer. The two thousand million dollar Manhattan project, 1942–5, to produce nuclear weapons was the culmination of a trend. Its cost was beyond any realistic combination of enterprises, and probably beyond any state at the time, other than the U.S.A. As with all state interventions in weapons production it accentuated the security interests of the state, on this occasion to a great extent.

The soaring costs of armaments and the security issue is reflected in present state funding of arms industries and their political regulation by state bureaucracies, which has now extended to interstate planning and funding as determined by particular patterns of alliance. Commitments to such expensive weapons projects do not just entail a dependence on particular domestic industries but also reinforce complex political structures transcending any given nation state.

The requirements of war planning during the first and second World Wars and beyond, established an economic and political basis for the extension of state planning from the organisation of war production to the peacetime economy. There are two aspects to this. First, the extensive network of relations between civilian and military sectors and the emphasis on 'being prepared' for war – the heritage of the 1870–1945 period – has ensured that the clarity of the distinction between war and peace is lost with regard to the organization of war production. Civilians are as much a war target as military personnel, a fact which is hardly surprising as it is difficult to determine who is of greater significance to war potential – skilled workers in space industries (producing missiles) or servicemen in charge of their operation.

The modern military's dependence on the civilian sector for material resources has not meant the universal persistence of mass armies and conscription. Nuclear weapons and the extension of technical specialisation have inspired a return to professional armies since the second World War (Janowitz, 1960). This trend has been reinforced by internal political conditions, e.g. opposition to compulsory military service by citizens in the United States and Great Britain, as well as opposition by the military which disliked the effort involved in training compared with the results obtained.

The precise combination of mass army and/or professionalism depends on the strategic location of a society, its defence posture and weapons policy. Some societies, with both aggressive intentions and a political problem of being surrounded by 'hostile' states, e.g. Israel and South Africa, opt for a professional, elite force supported by citizen mass armies. Others, with more defensive positions, e.g. Switzerland, are content with citizen armies with a small professional cadre for training purposes. Others like the United States (since 1970) and Great Britain, opt for professional forces, though the United States, in particular, is continually reconsidering conscription in the light of changing strategic circumstances (S. Sarkesian, 1981). In all cases however, the umbilical cord of modern supply systems applies.

Second, the price paid by the state for its war mobilisations in 1914–18 and especially in the wake of 1939–45 was the establishment of a framework of political and administrative regulation, and the supplanting of the market mechanism by administrative allocation. For example, prices were less market indicators than administratively determined accounting devices for (politically) determining a 'fair' return on investment. In the post-war period there were political and economic pressures to adapt this framework to peace time ends and 'economic growth'. Such attempts at the social engineering of capitalism are still very much part of political discourse despite the rhetoric and changes initiated by the new right's celebration of the traditional virtues of the market.

Planning and policy formation

The breakdown of the distinction between war and peace in regard to the permanent planning of what other writers have termed the 'military–industrial complex' (Yarmolinsky, 1971), and the civilian population's loss of non-combatant status, has also been associated with the increased power of military planners within the state and a restructuring of diplomacy.

The politico-military implications of the techniques of modern warfare both encouraged and required war planning. Scientific techniques facilitated the calculation of resources required for war (and the intentions of potential opponents), as well as providing the means for putting them into operation. In terms of resources, the specialisation and long-term production of war technology required forward planning; i.e. war goods could not be produced or adapted from another use on demand. As a result, both state and industry had to plan well in advance what was required, at what times, and when, if at all, to feed in improvements and/or modifications. As to technical means, railways and motorization on land, and steam at sea, so increased speed of military deployment that success was more likely for those states which possessed them and were prepared.[4] (This does not mean that all states avoided 'unpreparedness'. Britain in 1939 is, to some extent, a case in point. However, as we shall see, there is a sense in which unpreparedness is inevitable in any planning, no matter how detailed.) Thus, the emphasis on continual manoeuvres and operational timetables so characteristic of the decade before 1914.

Pearton suggests that the emergence of military timetables, which laid down distributions of resources on different fronts, lists of targets and dates by which they were to be achieved, together with the complicated logistics machinery which made such operations possible, provided serious constraints on the flexible use of diplomacy. Military staffs came to argue that while the declaration of war might be a political question, once entered into, the politicians and diplomats should retreat to the sidelines to await a result sufficiently clear to serve as a basis for peace negotiations. Such a view was based not simply on the military profession's suspicion of interference with its work of war, (though this was important), but on the technical argument that once initiated, a complex war plan could not be halted for the political or diplomatic purposes of reopening negotiations, without putting the 'war machine' at severe disadvantage should hostilities recommence. This argument was the logical culmination of the view that success in war derives not so much from the operational phase but from the administrative and logistical preparations.

Such a situation is in clear contrast to the late eighteenth and early nineteenth centuries where warfare and diplomacy interrelated in rather different ways. The phases of war mobilisation, concentration, deployment, and the march to battle were each construed as diplomatic signals as well as steps on the road to war. Hostilities could be halted at any stage to allow negotiations to take place. By contrast, in 1914 any last minute change of strategy was bound to lead to chaos, as meticulous planning for the deployment of particular goods and men was overturned and new targets substituted. For example, Moltke came close to a nervous breakdown on being asked to consider a major attack on Russia on the premise that England would stay out of the conflict and persuade France to do likewise. This reverse of the Schliefen plan (originally specifying a massive attack on and defeat of France before turning to Russia which was presumed to be the slower power to mobilise), from Moltke's point of view, not only involved the chaos of logistical rearrangements, with the risk of troops arriving at their new destinations both disorganised and separated from their equipment, but also the blunder of advancing to Russia with their vulnerable backs turned to France, which was highly unlikely to resist the opportunity to strike (C. Barnett, 1963, pp. 17–54). This example serves to illustrate Pearton's argument that modern war minimises the conditions under which diplomacy could intervene in the post-declaration phases of war. All states came to accept that to mobilise meant war. The structure of war technology and organization generated severe political risks for those who failed to recognise this (A. Horne, 1964, pp. 35–49).

But how far was this 'military constraint' on diplomatic freedom of manoeuvre an expression of the ideology of military planners, anxious to defend their new found power to determine policy and to push the 'interfering politicians' to the sidelines (Harries-Jenkins, p. 154)? How true was it that to allow diplomatic intervention into the post mobilisation phases of war was to court military disaster? These questions require further analysis of what may be termed the 'timetable effects' of modern war alluded to earlier.

The extent to which military timetables are 'unstoppable' in the sense that to change is to court military disaster, depends upon the nature of the encounter between states and the type of military operation pursued. The example discussed above drawn from

World War I could be supplemented by the more horrific scenario of a modern full scale nuclear exchange, where once certain signals appear on computer screens the freedom of manoeuvre left to diplomacy is minimal. This sort of argument is open to a number of objections.

First of all, it is important not to underestimate the political context of military planning. There are situations (and ones which can be designed) to ensure that military policy, including the phases immediately prior to the onset of actual fighting, and even operations themselves, are subject to political control. Such controls provide the conditions for further diplomatic activities. Hitler exerted considerable, albeit dictatorial control over the military in this regard, and the Cuban missile crisis provides another example of how it is possible for military timetables to be subjected to political control. Whether such controls are 'democratic' is quite another matter.

Secondly, it should be noted that 'timetable effects' are different in different types of warfare. The immediate post second world war preoccupation with Armageddon style nuclear exchanges (where once a war decision was taken, diplomacy ceased to function) has been displaced by not only the current 'planning' for limited nuclear exchange but in addition,

(a) 'brush fire' wars between a major and minor power with conventional weapons in areas where 'super-power' spheres of influence are not in major conflict,
(b) 'client state' wars with conventional weapons where such spheres of influence are in conflict, and super-powers are materially involved,
(c) possible conventional wars between 'super powers'.

In each case, and even in nuclear confrontations, it is possible for the phase of mobilisation, deployment and operations to be halted for political reasons and/or to be used as diplomatic bargaining counters in the resolution of disputes. The point is that the structure of political control and the experienced political personnel to man it may be absent, and a 'drift' to war may result. This was the concern of the Weberian-inspired critique of the role of the military in state planning conducted by C. Wright Mills in his neglected study of *The Causes of World War III* (C. Wright Mills, 1958).

Pearton's thesis on this issue is particularly pertinent to most types of contemporary warfare only in relation to the operational phase of war. That is to say, once operations are initiated, warfare tends to set into motion a military logic into which it is difficult to intervene diplomatically. This is so for two reasons. First, the military profession once given a 'brief' will struggle to retain its executive autonomy until 'victory' or an equivalent condition has been secured. They are well placed in terms of control of communications, expertise and lobbying to do so. But even here the question of political responsibility is crucial. It is often the case that even at the stages of deployment the commitment of military forces constrains political leaders to sanction the completion of a timetable because of the fear of loss of face both internationally and domestically. If war requires popular legitimacy in modern states, that very factor is an important ingredient in the logic of military timetables, and is not one political leaders can offload onto military technicians (the recent Falklands episode is instructive in this regard).

Pearton concentrates on the consequences of modern military planning for diplomatic relations. Yet there are wider implications of 'military timetables' for the structure of state planning. These may be expressed in terms of a paradox, the significance of which is not confined to the field of war.

The increase in the capacity of a state to plan for war coincides with its inability to substitute its contingency plans and timetables for either the complex reality of the shifts in the political relations between states, or that of the operational problems of particular battlefields. Put another (and exaggerated) way, in the pre-industrial era in the west the state had to make do (sometimes brilliantly), with relatively short term improvisation using resources to hand to meet the military demands of immediate political situations. They had little administrative and conceptual means of planning war or distancing themselves from the immediate present, nor the necessity of doing so. In the era of industrial capitalism, the personnel responsible for planning, mobilising and transporting such destructive forces across vast distances confront the often nasty surprise that that which was planned for does not take place at either or both the politico-strategic or operational-tactical levels. Thus, situations can arise in which hitherto unlikely opponents or combinations of opponents are encountered for which no detailed plans have been prepared, or allies once counted on do not materialise. Similarly, the strengths and weaknesses of opponents, which have formed premises of particular plans are shown to be mistaken; weapons once trusted are revealed as faulty, and so on.

In consequence, it can be argued that notwithstanding modern planning (and no matter how complex the models and computer programmes), the dictates of reality will ensure that success will go to the state (other things being equal) with the capacity for flexible response, and therefore, the military and related personnel who can improvise with what lies to hand. However, the capacity to improvise has, in some respects, decreased with the development of war planning. This is for two main reasons. First, the personnel involved may, through their experience of detailed planning, particularly when directed at fixed and fairly long-term options (as say in the twenty year Schlieffen era, the three year preparations for D Day, or the NATO and 'Euro-centric' role of contemporary British defence policy), lose the capacity to improvise, and recognise genuine opportunities for success not countenanced in the planning phase. Van Creveld has shown that the meticulous planning involved in the 'D Day' landings provided obstacles to the realisation of operations after the landing, simply because the planners, having long considered them beforehand, regarded what was in fact happening on the ground – sudden swift advances – as impossible (Van Creveld, 1977).

Secondly, and echoing the points made earlier about specialised armaments, there is in modern war a severe limit on the degree to which adaptation to novel or unexpected political/operational circumstances can be secured; indeed, in some respects a greater limit than in the era when military technology was changing far less rapidly. This limit concerns the problem of 'lead time' associated with modern war and which applies to planning both within military organizations and their relations with the civilian sector. Modern weapons systems are costly, very specialised, and, (despite strenuous efforts to make them as multi-purpose as possible), tied to particular strategic scenarios and operational limits. War technology is designed for particular structures of political and military relations. In addition, most weapons systems take a long time to evolve through the phases of design, prototype, production, deployment and operational use. As a result they may come to be deployed when the circumstances for which they were designed no longer exist. This situation is exacerbated by the pace of innovation, which forces military competitors to match and/or outstrip each other, and also provides policy makers with an often bewildering array of choices which could only be met easily if at all by a limitless supply of fiscal and material resources. Given such a situation does not exist for every state, all states, even the USA and USSR therefore have to take *risks* in the formation of policy. While sophisticated intelligence services may inform that choice, the knowledge they produce often simply multiplies the options and scenarios to be considered. The more rigid the plan the less improvisation is possible. Yet, as the industrialisation of warfare tell us, for a state to be unprepared and to depend completely on improvisation with what is to hand destines it either to disaster in the face of any first class military power or combinations of powers, or a position in which its politics are decided upon elsewhere. With few exceptions, states can only fight wars for which they are prepared; 'knowledgeable states' do not always confront the realities of their strategic and tactical positions (witness the illusions of Britain in Suez), and even when they do, surprise is the rule rather than the exception. Stepping between the extremes of improvisation and planning involves not simply a technical skill on the part of planning staffs, but, in additional an institutionalized political sensibility in the ways in which they are controlled by the state.

This last point derives from the fact that the most knowledgeable state must take risks in its planning, and that, therefore, technique cannot eradicate sources of military and political uncertainty. Technical solutions to military (and other social) problems presuppose a framework of political decisions which cannot itself be reduced to technique. As modern planning makes it difficult to change political and strategic options radically at short notice, the question of responsibility for such choices becomes all the more significant. In the absence of mechanisms for securing the accountability of military (and other) planners, two serious consequences are possible.

First, war plans are constructed and presented as 'technical' necessities, with their political and strategic (and therefore contestable) assumptions concealed. More or less gullible politicians may assist in this process. The best and most dangerous example of this is the argument that possessing (and threatening to use) nuclear weapons is, technically, a 'necessity' for a viable British defence policy within NATO. Such a view presupposes the necessity of NATO (and its nuclear arsenal), rules out an armed neutrality, which, as implemented by a citizen mass army, strong conventional weapons systems and a different commitment to alliances, would provide the basis for alternative defence postures. The point here is not to defend such a posture but to argue that deducing strategic policy from weapons systems is to *reverse* the proper relationship and allows politically contestable solutions to the most central of state policies to masquerade as technical products of a knowledgeable state.

Second, military and related technicians are permitted to extend their role in the political process to encompass areas of policy formation, the *responsibility* for the ultimates of high strategy, for which they are neither technically competent nor politically experienced. The example of the military dictatorship in Germany 1916–18 can be referred to once more (M. Kitchen, 1976). There, such vital decisions as policy in eastern Europe and unrestricted submarine warfare, all of which jeopoardised the capacity of Germany to secure either its war aims or a realistic 'second best', were taken more as technical/military decisions than ones tempered by an approval and judgement of which options would best secure particular foreign policy objectives. The way in which the logic of military decision making pulled the political structure into ex post facto rationalisation (followed, admittedly by willing participation by the politicians directly concerned) was further illustrated in the early years of American involvement in Vietnam.

This argument applies not just to situations of war but to the commitment of vast resources to weapons systems and 'back up' building programmes years ahead. If the decisions made by military planners commit both themselves and *us* to particular distributions of resources and patterns of development decades ahead, how important it is that they are taken within a more than formally democratised political community. Thus the development of the 'knowledgeable state' presupposes the question of which and whose ends it pursues.

Notes

1. A point explored by writers such as K. Middlemass (1979) *Politics in Industrial Society*, Deutsch. C. Crouch (ed.) (1977) *State and Economy in Contemporary Capitalism*, Croom Helm. A.S. Milward, *War Economy and Society, 1939–45*, Allen Lane.

2. For the purposes of this discussion strategic deployment involves the distribution of forces against an opponent's overall resources which, ideally, maximises the forces one can bring to bear on the opponent's weakest points. Tactics involves the movement and operation of forces on particular battlefields within a structure of strategic deployment. 'Victories' in the sense of destruction of the forces of an opponent or the capture of positions may be assessed in relation to their strategic as well as their tactical value.

Clausewitz put it this way, 'tactics is the theory of the use of military forces in combat. Strategy is the theory of the use of combat for the object of the war', in A. Rapaport (ed.) (1968) *Clausewitz on War*, p. 173.

3. In naval warfare during the era of sail, ships could operate for long periods (2 or 3 years) without resupply from home base. The main demands, food and especially fresh water required frequent supplies, but these could be met from local sources (the naval equivalent of foraging). Ships carried their own artisans and materials for repairs and refits could use resources from any civilian shipping sectors. Ammunition would typically last a three year commission unless extraordinary actions ensued. On occasion ships on blockade duty were regularly supplied from home by an 'umbilical cord' of supply, and thus a static role decreased their capacity for self-sufficiency. As with all cases logistic demands vary with the tasks performed. Modern warships are more dependent on home base supplies and materials, but the very nature of sea war has required the persistence of some of their traditional autonomy in the matter of logistics. This has reached its height in the nuclear submarine which for arms and supplies is independent of home and local supply sources for periods of three years at a time.

4. The career of Admiral Fisher, First Sea Lord 1904–10 was almost completely preoccupied with instilling readiness in the British naval war machine, particularly from 1890–1914. See R. Hough (1969) *First Sea Lord*, London, Allen & Unwin.

References

Baran, P.A. and Sweezy, P.M. (1970) *Monopoly Capital*, London, Penguin.

Barnett, C. (1972) *The Collapse of British Power*, London, Methuen.

Barnett, C. (1963) *The Sword Bearers*, London, Eyre & Spottiswoode.

Cooper, M. (1978) *The German Army*, MacDonald & Janes.

Gerschenkron, A. (1962) *Economic Backwardness in Historical Perspective*, Cambs, Mass.

Galbraith, J.K. (1967) *The New Industrial State*, London, Hamilton.

Hamer, W.C. (1970) *The British Army: Civil Military Relations, 1885–1905*, Oxford University Press.

Harries-Jenkins, G. (1977) *The Army in Victorian Society*, London, Routledge & Kegan Paul.

Horne, A. (1964) *The Price of Glory: Verdun, 1916*, London, Penguin.

Janowitz, M. (1960) *The Professional Soldier*, Free Press.

Kitchen, M. (1968) *The German Officer Corps*, Oxford University Press.

Kitchen, M. (1976) *The Silent Dictatorship*, London, Croom Helm.

Kitchen, M. (1978) *Political Economy of Germany*, London, Croom Helm.

Marder, A.J. (1941) *British Naval Policy 1880–1905: The Anatomy of British Sea Power*, London, Putnam.

Wright Mills, C. (1958) *The Causes of World War III*, New York, Simon & Schuster.

Sarkesian, S. (1981) *Beyond the Battlefield: The New Military Professionalism*, London, Pergamon.

Van Creveld (1977) *Supplying War Logistics from Wallenstein to Patton*, Cambridge University Press.

Yarmolinsky, A. (1971) *The Military Establishment*, Harper & Row.